



20010-06USA.ST25.txt  
SEQUENCE LISTING

<110> POSCO  
POSTECH Foundation  
CHA, Hyung Joon  
HWANG, Dong Soo

<120> Mussel Bioadhesive

<130> 20010-06USA

<140> US 10/599,313  
<141> 2006-09-20

<150> PCT/KR2005/000888  
<151> 2005-03-25

<150> US 60/556,805  
<151> 2004-03-26

<160> 35

<170> KopatentIn 1.71

<210> 1  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 1  
ggcctgcagc agttctgaag aatacaaggg  
30

<210> 2  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 2  
gtagatctat acgccggacc agtgaacag  
29

<210> 3  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 3  
cttgatattt ccgctgtttt t  
21

<210> 4  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 4  
 aaaaacagcg gaaaatacaa g  
 21

<210> 5  
 <211> 228  
 <212> DNA  
 <213> Mytilus galloprovincialis

<220>  
 <221> CDS  
 <222> (1)..(228)  
 <223> Mytilus galloprovincialis foot protein-5 cDNA

<400> 5  
 agt tct gaa gaa tac aaa ggt ggt tat tac cca ggc aat act tac cac  
 48  
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His  
 1 5 10 15  
 tat cat tca ggt ggt agt tat cac gga tcc ggc tat cat gga gga tat  
 96  
 Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr  
 20 25 30  
 aag gga aag tat tac gga aag gca aag aaa tac tat tat aaa tat aaa  
 144  
 Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys  
 35 40 45  
 aac agc gga aaa tac aag tat ctg aag aaa gct aga aaa tac cat aga  
 192  
 Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg  
 50 55 60  
 aag ggt tac aag aag tat tat gga ggt ggt agc agt  
 228  
 Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser  
 65 70 75

<210> 6  
 <211> 76  
 <212> PRT  
 <213> Mytilus galloprovincialis

<400> 6  
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Thr Tyr His  
 1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr  
                   20                  25                  30  
 Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys  
                   35                  40                  45  
 Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg  
           50                  55                  60  
 Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Gly Ser Ser  
   65                  70                  75

<210> 7  
 <211> 180  
 <212> DNA  
 <213> mytilus edulis  
  
 <220>  
 <221> CDS  
 <222> (1)..(180)  
 <223> 6 times repeated sequence derived from mytilus edulis foot  
 protein-1

<400> 7  
 gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca  
 48  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
   1                  5                  10                  15  
  
 ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa  
 96  
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
           20                  25                  30  
  
 ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc  
 144  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
           35                  40                  45  
  
 tat aag gct aaa ccg agt tac ccc ccg act tac aaa  
 180  
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
   50                  55                  60

<210> 8  
 <211> 60  
 <212> PRT  
 <213> mytilus edulis

<400> 8  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
   1                  5                  10                  15  
  
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
           20                  25                  30  
  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
           35                  40                  45  
  
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys

50

55

60

<210> 9  
 <211> 411  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Bioadhesive protein(mgfp-150) coding sequence  
  
 <220>  
 <221> CDS  
 <222> (1)..(411)  
 <223> Bioadhesive protein(mgfp-150)

<400> 9  
 gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca  
 48  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
 1 5 10 15  
  
 ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa  
 96  
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
 20 25 30  
  
 ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc  
 144  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
 35 40 45  
  
 tat aag gct aaa ccg agt tac ccc ccg act tac aaa agt tct gaa gaa  
 192  
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu  
 50 55 60  
  
 tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt  
 240  
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
 65 70 75 80  
  
 ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat  
 288  
 Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
 85 90 95  
  
 tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa  
 336  
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
 100 105 110  
  
 tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag  
 384  
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
 115 120 125  
  
 aag tat tat gga ggt agc agt gaa ttc  
 411  
 Lys Tyr Tyr Gly Gly Ser Ser Glu Phe  
 130 135

<210> 10  
 <211> 137  
 <212> PRT  
 <213> Artificial Sequence

<400> 10  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
 1 5 10 15  
 Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
 20 25 30  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
 35 40 45  
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu  
 50 55 60  
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
 65 70 75 80  
 Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
 85 90 95  
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
 100 105 110  
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
 115 120 125  
 Lys Tyr Tyr Gly Gly Ser Ser Glu Phe  
 130 135

<210> 11  
 <211> 411  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Bioadhesive protein(mgfp-051) coding sequence

<220>  
 <221> CDS  
 <222> (1)..(411)  
 <223> Bioadhesive protein(mgfp-051)

<400> 11  
 agt tct gaa gaa tac aag ggt ggt tat tac cca ggc aat tcg aac cac  
 48  
 Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His  
 1 5 10 15  
 tat cat tca ggt ggt agt tat cac gga tcc ggc tac cat gga gga tat  
 96  
 Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr  
 20 25 30  
 aag gga aag tat tac gga aag gca aag aaa tac tat tat aaa tat aaa

20010-06USA.ST25.txt

144  
Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys  
35 40 45

aac agc gga aaa tac aag tat cta aag aaa gct aga aaa tac cat aga  
192  
Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg  
50 55 60

aag ggt tac aag aag tat tat gga ggt agc agt gaa ttc gct aaa ccg  
240  
Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro  
65 70 75 80

tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca ccg act tat  
288  
Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
85 90 95

aag gct aaa cct agc tat cca cct acg tac aaa gct aaa ccg tct tac  
336  
Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
100 105 110

ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc tat aag gct  
384  
Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala  
115 120 125

aaa ccg agt tac ccc ccg act tac aaa  
411  
Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
130 135

<210> 12  
<211> 137  
<212> PRT  
<213> Artificial sequence

<400> 12  
Ser Ser Glu Glu Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His  
1 5 10 15

Tyr His Ser Gly Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr  
20 25 30

Lys Gly Lys Tyr Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys  
35 40 45

Asn Ser Gly Lys Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg  
50 55 60

Lys Gly Tyr Lys Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro  
65 70 75 80

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
85 90 95

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
100 105 110

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala

115

120

125

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
130 135

<210> 13  
<211> 591  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Bioadhesive protein(mgfp-151) coding sequence

<220>  
<221> CDS  
<222> (1)..(591)  
<223> Bioadhesive protein(mgfp-151)

<400> 13  
gct aaa ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca  
48  
Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
1 5 10 15

ccg act tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa  
96  
Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
20 25 30

ccg tct tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc  
144  
Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
35 40 45

tat aag gct aaa ccg agt tac ccc ccg act tac aaa agt tct gaa gaa  
192  
Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu  
50 55 60

tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt  
240  
Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
65 70 75 80

ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat  
288  
Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
85 90 95

tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa  
336  
Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
100 105 110

tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag  
384  
Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
115 120 125

aag tat tat gga ggt agc agt gaa ttc gct aaa ccg tct tac ccg ccg  
Page 7

432

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro  
 130 135 140

acc tac aaa gca aaa ccc tcg tac cca ccg act tat aag gct aaa cct  
 480

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro  
 145 150 155 160

agc tat cca cct acg tac aaa gct aaa ccg tct tac ccg ccg act tac  
 528

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
 165 170 175

aaa gca aaa ccg tcc tac cct ccg acc tat aag gct aaa ccg agt tac  
 576

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
 180 185 190

ccc ccg act tac aaa  
 591

Pro Pro Thr Tyr Lys  
 195

&lt;210&gt; 14

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;400&gt; 14

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro  
 1 5 10 15

Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys  
 20 25 30

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
 35 40 45

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ser Ser Glu Glu  
 50 55 60

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
 65 70 75 80

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
 85 90 95

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
 100 105 110

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
 115 120 125

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro  
 130 135 140

Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro  
 145 150 155 160

Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
 165 170 175



Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
180 185 190

Pro Pro Thr Tyr Lys  
195

<210> 15  
<211> 354  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> construct for expression of Bioadhesive protein(mgfp-5) in pMDG05 vector

<220>  
<221> CDS  
<222> (1)..(351)  
<223> Bioadhesive recombinant protein expressed in pMDG05 vector

<400> 15  
atg ggg ggt tct cat cat cat cat cat cat ggt atg gct agc atg act  
48  
Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr  
1 5 10 15

ggt gga cag caa atg ggt cgg act ctg tac gac gat gac gat aag gat  
96  
Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp  
20 25 30

cga tgg gga tcc gag ctc gag atc tgc agc agt tct gaa gaa tac aag  
144  
Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys  
35 40 45

ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt ggt agt  
192  
Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser  
50 55 60

tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat tac gga  
240  
Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly  
65 70 75 80

aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa tac aag  
288  
Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys  
85 90 95

tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag aag tat  
336  
Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr  
100 105 110

tat gga ggt agc agt taa  
354  
Tyr Gly Gly Ser Ser

115

<210> 16  
 <211> 117  
 <212> PRT  
 <213> Artificial Sequence

<400> 16  
 Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr  
 1 5 10 15  
 Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp  
 20 25 30  
 Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys  
 35 40 45  
 Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser  
 50 55 60  
 Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly  
 65 70 75 80  
 Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys  
 85 90 95  
 Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr  
 100 105 110  
 Tyr Gly Gly Ser Ser  
 115

<210> 17  
 <211> 456  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> construct for expression of Bioadhesive protein(mgfp-150) in  
 pMDG150 vector

<220>  
 <221> CDS  
 <222> (1)..(453)  
 <223> Bioadhesive recombinant protein expressed in pMDG150 vector

<400> 17  
 atg ggg ggt tct cat cat cat cat cat cat ggt atg gct agc gct aaa  
 48  
 Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys  
 1 5 10 15  
 ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca ccg act  
 96  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
 20 25 30  
 tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa ccg tct  
 144

20010-06USA.ST25.txt

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser  
 35 40 45  
 tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc tat aag  
 192  
 Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
 50 55 60  
 gct aaa ccg agt tac ccc ccg act tac aaa ggc tgc agt tct gaa gaa  
 240  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu  
 65 70 75 80  
 tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt  
 288  
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
 85 90 95  
 ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat  
 336  
 Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
 100 105 110  
 tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa  
 384  
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
 115 120 125  
 tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag  
 432  
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
 130 135 140  
 aag tat tat gga ggt agc agt taa  
 456  
 Lys Tyr Tyr Gly Gly Ser Ser  
 145 150

<210> 18  
 <211> 151  
 <212> PRT  
 <213> Artificial sequence

<400> 18  
 Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys  
 1 5 10 15  
 Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
 20 25 30  
 Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser  
 35 40 45  
 Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
 50 55 60  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu  
 65 70 75 80  
 Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
 85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
 100 105 110  
 Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
 115 120 125  
 Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
 130 135 140  
 Lys Tyr Tyr Gly Gly Ser Ser  
 145 150

<210> 19  
 <211> 540  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> construct for expression of Bioadhesive protein(mgfp-051) in  
 PMDG051 vector

<220>  
 <221> CDS  
 <222> (1)..(537)  
 <223> Bioadhesive recombinant protein expressed in pMDOG51 vector

<400> 19  
 atg ggg ggt tct cat cat cat cat cat cat ggt atg gct agc atg act  
 48  
 Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr  
 1 5 10 15

ggt gga cag caa atg ggt cgg act ctg tac gac gat gac gat aag gat  
 96  
 Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp  
 20 25 30

cga tgg gga tcc gag ctc gag atc tgc agc agt tct gaa gaa tac aag  
 144  
 Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys  
 35 40 45

ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt ggt agt  
 192  
 Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser  
 50 55 60

tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat tac gga  
 240  
 Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly  
 65 70 75 80

aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa tac aag  
 288  
 Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys  
 85 90 95

tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag aag tat  
 336  
 Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr

100

105

110

tat gga ggt agc agt gaa ttc gct aaa ccg tct tac ccg ccg acc tac

384

Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro Thr Tyr

115

120

125

aaa gca aaa ccc tcg tac cca ccg act tat aag gct aaa cct agc tat

432

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr

130

135

140

cca cct acg tac aaa gct aaa ccg tct tac ccg ccg act tac aaa gca

480

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala

145

150

155

160

aaa ccg tcc tac cct ccg acc tat aag gct aaa ccg agt tac ccc ccg

528

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro

165

170

175

act tac aaa taa 540

Thr Tyr Lys

&lt;210&gt; 20

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;400&gt; 20

Met Gly Gly Ser His His His His His His Gly Met Ala Ser Met Thr

1

5

10

15

Gly Gly Gln Gln Met Gly Arg Thr Leu Tyr Asp Asp Asp Asp Lys Asp

20

25

30

Arg Trp Gly Ser Glu Leu Glu Ile Cys Ser Ser Ser Glu Glu Tyr Lys

35

40

45

Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly Gly Ser

50

55

60

Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr Tyr Gly

65

70

75

80

Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys Tyr Lys

85

90

95

Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys Lys Tyr

100

105

110

Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro Thr Tyr

115

120

125

Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr

130

135

140

Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala

145

150

155

160

Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro

Thr Tyr Lys

<210> 21  
<211> 642  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> construct for expression of Bioadhesive protein(mgfp-151) in  
pMDG151 vector

<220>  
<221> CDS  
<222> (1)..(639)  
<223> Bioadhesive recombinant protein expressed in pMDG151 vector

<400> 21  
atg ggg ggt tct cat cat cat cat cat cat ggt atg gct agc gct aaa  
48  
Met Gly Gly Ser His His His His His His Gly Met Ala Ser Ala Lys  
1 5 10 15  
ccg tct tac ccg ccg acc tac aaa gca aaa ccc tcg tac cca ccg act  
96  
Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
20 25 30  
tat aag gct aaa cct agc tat cca cct acg tac aaa gct aaa ccg tct  
144  
Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser  
35 40 45  
tac ccg ccg act tac aaa gca aaa ccg tcc tac cct ccg acc tat aag  
192  
Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
50 55 60  
gct aaa ccg agt tac ccc ccg act tac aaa ggc tgc agt tct gaa gaa  
240  
Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu  
65 70 75 80  
tac aag ggt ggt tat tac cca ggc aat tcg aac cac tat cat tca ggt  
288  
Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
85 90 95  
ggt agt tat cac gga tcc ggc tac cat gga gga tat aag gga aag tat  
336  
Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
100 105 110  
tac gga aag gca aag aaa tac tat tat aaa tat aaa aac agc gga aaa  
384  
Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
115 120 125

20010-06USA.ST25.txt

tac aag tat cta aag aaa gct aga aaa tac cat aga aag ggt tac aag  
432  
Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
130 135 140

aag tat tat gga ggt agc agt gaa ttc gct aaa ccg tct tac ccg ccg  
480  
Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro  
145 150 155 160

acc tac aaa gca aaa ccc tcg tac cca ccg act tat aag gct aaa cct  
528  
Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro  
165 170 175

agc tat cca cct acg tac aaa gct aaa ccg tct tac ccg ccg act tac  
576  
Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
180 185 190

aaa gca aaa ccg tcc tac cct ccg acc tat aag gct aaa ccg agt tac  
624  
Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
195 200 205

ccc ccg act tac aaa t aa  
642  
Pro Pro Thr Tyr Lys  
210

<210> 22  
<211> 213  
<212> PRT  
<213> Artificial Sequence

<400> 22  
Met Gly Gly Ser His His His His His Gly Met Ala Ser Ala Lys  
1 5 10 15

Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr  
20 25 30

Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser  
35 40 45

Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
50 55 60

Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Gly Cys Ser Ser Glu Glu  
65 70 75 80

Tyr Lys Gly Gly Tyr Tyr Pro Gly Asn Ser Asn His Tyr His Ser Gly  
85 90 95

Gly Ser Tyr His Gly Ser Gly Tyr His Gly Gly Tyr Lys Gly Lys Tyr  
100 105 110

Tyr Gly Lys Ala Lys Lys Tyr Tyr Tyr Lys Tyr Lys Asn Ser Gly Lys  
115 120 125

Tyr Lys Tyr Leu Lys Lys Ala Arg Lys Tyr His Arg Lys Gly Tyr Lys  
130 135 140

20010-06USA.ST25.txt

Lys Tyr Tyr Gly Gly Ser Ser Glu Phe Ala Lys Pro Ser Tyr Pro Pro  
 145 150 155 160  
 Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro  
 165 170 175  
 Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr  
 180 185 190  
 Lys Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys Ala Lys Pro Ser Tyr  
 195 200 205  
 Pro Pro Thr Tyr Lys  
 210

<210> 23  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 23  
 ggtacccgaa ttcgaattcg ctaaaccg  
 28

<210> 24  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 24  
 ggctgactca agcttatcat ttgtaagtcg  
 30

<210> 25  
 <211> 10  
 <212> PRT  
 <213> mytilus edulis

<400> 25  
 Ala Lys Pro Ser Tyr Pro Pro Thr Tyr Lys  
 1 5 10

<210> 26  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 26  
 gctaaaccgt cttacccgcc gacctacaaa  
 30



<210> 27  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 27  
 gcaaaaaccct cgtacccacc gacttataag  
 30

<210> 28  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 28  
 gctaaacccta gctatccacc tacgtacaaa  
 30

<210> 29  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 29  
 gctaaaccgt cttacccgcc gacttacaaa  
 30

<210> 30  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 30  
 gcaaaaaccgt cctacccctcc gacctataag  
 30

<210> 31  
 <211> 30  
 <212> DNA  
 <213> Mytilus edulis

<400> 31  
 gctaaaccga gttaccccc gacttacaaa  
 30

<210> 32  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> primer

<400> 32  
 aattaaccct cactaaaggg

20

<210> 33  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 33  
gtaatacgac tcactatagg gc  
22

<210> 34  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 34  
cctaacatat gggggttctc atcatc  
26

<210> 35  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> primer

<400> 35  
atccgcaaaa acagccaagc tt  
22